IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Appl. No.: 10/678,817	TC/A.U.: 1654
Applicant: Bobrowski, Paul J.	Examiner: Tate, Christopher Robin
Filed: October 03, 2003	Docket No.: PHMC0745-023
Cust. No.: 26948	Confirm. No. : 3270

Appl. Title: Oral Rehydration Methods and Compositions

Commissioner for Patents
P.O. Box 1450
Alexandria VA 2213-1450

Response to Final Office Action

Dear Examiner:

Responsive to the Official Action dated March 13 2006, please consider the remarks below:

Remarks/Arguments begin on page 2 of this paper.

REMARKS/ARGUMENTS

1. Claims 1-17 have been canceled. Claims 18 - 32 remain in the application and were previously presented in Applicant's correspondence filed January 3rd, 2006. The Examiner has subsequently withdrawn "claims 19-24 [*sic*] and 32 ...from consideration as being directed to a non-elected invention. (Office Action pg. 2). The Applicant disagrees with the Examiner's analysis and conclusion regarding the subject claims.

Election with Traverse
Claims 18-24 and 32 are not distinct to the method of claims 25-31.

2. The Applicant elects to prosecute claims 25-31 and traverse the Examiner's restriction of Claims 18-24 and 32.
3. A product and a process of using the product can be shown to be distinct inventions if either or both of the following can be shown: (A) the process of using as claimed can be practiced with another materially different product; or (B) the product as claimed can be used in a materially different process. MPEP 806.05(h) Product and Process of Using. The Examiner presented arguments only regarding option "(A"). (Office Action, pg. 2) and does not allege that the composition(s) of claims 18-24 and 32 are "independent". The Examiner notes with particularly that "there are numerous ways to treat symptoms of diarrhea in a mammal (including symptoms associated with dehydration) which do not require a composition comprising the ingredients recited within the rehydration composition of claims 18-24 and 32." The Applicant responds by noting that it's not claiming "numerous ways" of treating dehydration - the Applicant is claiming a method of treating dehydration using a *specific* composition. Put another way, because the Applicant's method claims 25 - 31 recite administering *the specific* rehydration composition of claims 18-24 and 32, the latter subset of claims are not distinct under 37 CFR 1.142(b).

4. Claims 18 - 24 and 32 recite a rehydration composition (i.e. "a product"). Claims 25 - 31 recite a method of using said rehydration composition (i.e. a "process of using the product"). More particularly, claim 18 requires that the composition includes "an extract of species Croton plant latex with UV absorbency in the range of 390nm to 430nm reduced at least fifty-percent relative to the unextracted plant latex"; and claim 25 requires administration of a composition including, "an extract of species Croton plant latex with UV absorbency in the range of 390nm to 430nm reduced fifty-percent relative to the unextracted plant latex". Both claims have a Croton species extract with the same claimed characteristics. Likewise, claim 18 requires that the composition include "an extract of species Uncaria plant material with alkaloid concentration reduced to less than about 0.5 mg/g relative to the unextracted Uncaria plant material"; and claim 25 requires administration of a composition including, "an extract of species Uncaria plant material with alkaloid concentration reduced to less than about 0.5 mg/g relative to the unextracted Uncaria plant material." Both claims have a Uncaria species extract with the same claimed characteristics. Finally, both the claim 18 composition, and the claim 25 method, require the inclusion or use, respectively, of "at least one rehydration component selected from the group consisting of a potassium salt, a sodium salt, a bicarbonate, and a sugar." The *claimed* process cannot be used with a materially different composition.
5. Claim 32 is similarly considered and is (also) not distinct from claim 25. Claim 25 requires administration of a rehydration composition including, "an extract of species Croton plant latex with UV absorbency in the range of 390nm to 430nm reduced fifty-percent relative to the unextracted plant latex"; and claim 32 requires that the rehydration composition include "an extract of species Croton plant latex with UV absorbency in the range of 390nm to 430nm reduced at least sixty-percent relative to the unextracted plant latex". Moreover, claim 25 requires administration of a rehydration composition including, "an extract of species Uncaria plant material with alkaloid

concentration reduced to less than about 0.5 mg/g relative to the unextracted Uncaria plant material"; and claim 32 requires that the rehydration composition include "an extract of species Uncaria plant material with alkaloid concentration reduced to less than 0.1 mg/g relative to the alkaloid concentration in the unextracted Uncaria plant material". Again, the *claimed* process cannot be used with a materially different composition.

6. Finally, the Applicant reserves its right to present further argument should the Examiner present arguments regarding "independence" or option "(B)" under MPEP 806.05(h). The Applicant requests examination of claims 18-24 and 32 on the merits.

Claim Rejection - 35 U.S.C. § 112 - 1st Paragraph

7. The Examiner rejected claims 25-31 under 35 USC §112 paragraph 1. The Examiner alleges that there is not adequate support for the claimed limitations. (Office action pg. 3) The Examiner "could find no support within the instant specification concerning a method of rehydrating a mammal via administering a composition comprising an extract of a species of Croton plant latex having the instantly recited relative UV absorbency range - i.e., reduced 50% relative to unextracted plant latex, and an extract of Uncaria plant material having the instantly recited relative alkaloid concentration - i.e. less tan about 0.5 mg/g relative to unextracted Uncaria plant material, in combination with the other recited ingredient(s), as instantly claimed."
8. The Applicant disagrees with the Examiner. There is ample support for the claim limitations. The application recites at (least at) paragraphs "011" and "012":

> [011] The present invention generally comprises methods and compositions for oral rehydration in humans and animals that simultaneously reduces fluid loss. The methods and compositions disclosed herein contain botanical derivatives that retain the ability to inhibit emesis and activation of sensory afferent nerves, thus reducing causative agents (i.e. vomiting, diarrhea) in combination with fluids and nutrients that address symptoms through rehydration. **The methods and compositions disclosed herein incorporate botanical derivatives from the *Uncaria* and *Croton* species that retain their medicinal benefits with an electrolyte/sugar composition containing a potassium salt, a sodium salt,**

bicarbonate and a sugar. The invention herein relates more particularly to the combination of the prior art anti-diarrheal compositions (i.e. ORS) together with the novel botanical *Uncaria* and *Croton* preparations and extracts. The purpose of these combinations with botanicals is to attenuate the processes that promote fluid and electrolyte loss while at the same time replacing what has already been lost. It provides for a treatment that addresses both the symptoms and cause of the condition and thus offers novel benefit over current therapies by reducing the severity and duration of the conditions.

[012] Emesis often accompanies enteric infections, resulting in a variety of manifestations of cause for concern (i.e. dehydration, loss of medication, etc). **In a well-established *in vivo* model, a novel lipid extract of the Croton specie sangre de grado (Zangrado) blocked emesis at concentrations of 3 mg/kg. Thus, extracts and preparations of Sangre de grado are effective anti-diarrheal agents that arrest emesis and offers substantial mucosal protective properties.** Cat's Claw of the *Uncaria* species, is an effective antioxidant and it has long been known that a sign of inflammation is an increased production of oxidants and free radicals. Oxidants promote diarrhea by epithelial electrolyte secretion as well as by promoting damaging gut epithelia, thereby promote a '"leaky' gut barrier secondary to epithelial cell death and dysfunction. **A novel preparations [*sic*] or extracts [*sic*] of the *Uncaria* specie (Vincaria) prevents cell death in response to the toxic nitrogen oxide and peroxynitrite, oxidants (i.e. H_2O_2) and free radicals, implicated in gut inflammation, cell death and epithelial secretory response.**

(emphasis added)

9. A Croton species extract having the claimed characteristics is discussed starting at (least at) page 6:

   [016] FIGURE 4. Using a well-established ferret model of post-operative complications of nausea, emesis and itch induced by morphine, **the organic extract of sangre de grado, Zangrado (CGO 110) was administered intraperitoneally (3mg/kg)** to ferrets 15 minutes prior to the subcutaneous injection of 0.05mg/kg of morphine-6-glucuronide (M6G). Administration of M6G caused a significant number of vomiting (2.2 ± 0.4) and retching (10 ± 1.2) incidences in the control group while in those animals pre-treated with Zangrado, the number of these episodes was virtually abolished (vomiting 0.6 ± 0.3; retching 2.2 ± 0.7, $P< 0.05$). **It is clear that this organic extraction procedure contains active components and is effective in the treatment of emesis**.

   (Emphasis added)

10. An Uncaria species extract having the claimed characteristics is discussed starting at (least at) page 7:

[017] FIGURE 5. A comparison of *Uncaria* parent and extract by high performance liquid chromatography (HPLC). **As shown in the overlaid chromatograms, the *Uncaria* extract derived from the methods described herein (Vincaria™) is substantially deplete of the immunostimulating alkaloids found in the parent (*Uncaria* spp) whilst retaining and thus enhancing the efficacy and therapeutic potential of the polar, immunosuppressive and TNF-alpha inhibiting (anti-inflammatory) components.**
[018] FIGURE 6. Oxidants and free radicals can readily promote the death of epithelial cells. Here three oxidants that are structurally distinct, a free radical (DPPH), and two oxidants (peroxynitrite and hydrogen peroxide) promote death of gastric epithelial cells in culture. **Inclusion of cat's claw in the form of the alkaloid-deplete Vincaria extract, significantly reduced cell oxidant-induced cell death, as evidence for the ability of Vincaria to maintain the integrity of the epithelial barrier**.

(Emphasis added)

11. Accordingly, a person of ordinary skill in the art would be apprised of the invention(s) which the Applicant seeks in the subject application. Moreover, because the claimed subject matter was disclosed in the original specification, it is not New Matter. 35 U.S.C. 132; MPEP § 608.04 (new matter is subject matter which has no antecedent basis in the original specification, drawings or claim.)

Claim Rejections - 35 U.S.C. § 103

12. The Examiner reiterated his rejection of claims 25-31 under 35 U.S.C. 103(a) as set forth in the previous Office action.
13. The Examiner has elected to not address the substance of the Applicant's response to the Examiner's rejection under 35 USC §103 choosing instead to rely on his rejection under 35 U.S.C. §112 discussed earlier. Despite that Applicant has no further burden given that the Examiner has elected not to address the substance of the Applicant's previous arguments, the Applicant wishes to provide further argument in anticipation of appeal.
14. The Applicant respectfully alleges that the Examiner has not established a prima facie case under 35 USC 103. To establish a *prima facie* case of

obviousness; there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings; there must be a reasonable expectation of success; and the prior art reference (or references when combined) must teach or suggest all the claim limitations. MPEP 2143. The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art, not in applicant's disclosure. *In re Vaeck*, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991).

15. The Examiner has failed to meet his burden of showing all the claim limitations in the cited references. None of the cited references, either alone or in combination disclose a composition, or the administration of a composition, comprising a Croton species extract having the claimed UV absorbance characteristics and a Uncaria species extract with reduced alkaloid content. It follows that the Examiner has not made a prima facie case under 35 U.S.C. §103.

16. Moreover, the motivation, utility, or reasonable expectation of success, may not be borrowed from the Applicant's disclosure. MPEP 2143 III and IV; *see also, In re Mills*, 916 F.2d 680 (Fed. Cir. 1990) (simply because prior art references can be combined or modified does not render the combination obvious unless the prior art also suggestions the desirability of the combination). Even assuming for the sake of argument that the combination of the cited references did disclose all the limitations of the Applicant's claimed composition and the method of its use, the Examiner has failed to explain how and where the references provide either: (i) a motivation to combine the cited references to render the claimed invention; or (ii) a reasonable expectation of successfully of achieving the Applicant's claimed invention(s). *In re Lee*, 277 F.3d 13338, 1344-45, 61 USPQ2d 1430, 1435 (Fed. Cir. 2002) (the PTO must document its reasoning on the record to allow accountability and effective appellate review.) It follows that the Examiner

has not made a prima facie case of obviousness and the Applicant requests withdrawal of the rejection. Finally, the Applicant respectfully requests an affidavit under 37 CFR 1.104(d)(2) if the Examiner intends to rely on unexpressed facts that are wholly within the Examiner's knowledge.

Conclusion

17. Applicant has addressed all the issues of the Examiner's office action and respectfully requests a reconsideration of its claims.

Respectfully submitted,

Ellis & Venable

Date: April 26, 2006

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